

Claims

We claim:

1. An isolated Sos1 inhibitor selected from the group consisting of an
5 antisense oligonucleotide, a ribozyme, a protein, a polypeptide, an antibody, and a small molecule.
2. The isolated Sos1 inhibitor of claim 1 wherein said inhibitor is an antisense molecule.
3. The isolated Sos1 inhibitor of claim 2, wherein said antisense
10 molecule or the complement thereof comprises at least 10 consecutive nucleic acids of the sequence of SEQ ID NO:1.
4. The isolated Sos1 inhibitor of claim 2, wherein said antisense molecule or the complement thereof hybridizes under high stringency conditions to the sequence of SEQ ID NO:1.
- 15 5. The isolated Sos1 inhibitor of claim 2, wherein said antisense molecule comprises a nucleic acid sequence selected from the group consisting of SEQ ID NOs:2 and 3.
6. The isolated Sos1 inhibitor of claim 1, wherein said inhibitor is a ribozyme.
7. The isolated Sos1 inhibitor of claim 1, wherein said inhibitor is
20 selected from the group consisting of an antibody and an antibody fragment.
8. A composition comprising a therapeutically effective amount of at least one Sos1 inhibitor in a pharmaceutically acceptable carrier.
9. The composition of claim 8, comprising two or more Sos1 inhibitors in said composition, wherein at least one Sos1 inhibitor is an antisense molecule.
- 25 10. The composition of claim 8, wherein the antisense molecule or the complement thereof comprises at least 10 consecutive nucleic acids of the sequence of SEQ ID NO:1.
11. The composition of claim 9, wherein the antisense molecule comprises a nucleic acid sequence selected from the group consisting of SEQ ID NOs:2 and 3.

12. A method of inhibiting the expression of Sos1 in a mammalian cell, comprising administering to said cell an Sos1 inhibitor selected from the group consisting of an antisense oligonucleotide, a ribozyme, a protein, a polypeptide, an antibody, and a small molecule.

5 13. The method of claim 12, wherein said Sos1 inhibitor is an antisense molecule.

14. A method of inhibiting the expression of Sos1 gene expression in a subject, comprising administering to said subject, in a pharmaceutically effective vehicle, an amount of an antisense oligonucleotide which is effective to specifically hybridize to all
10 or part of a selected target nucleic acid sequence derived from said Sos1 gene.

15. The method of claim 14, wherein the antisense oligonucleotide is selected from the group consisting of SEQ ID NOs:2 and 3.

16. A method of treating neoplastic disease, comprising administering to a mammalian cell diagnosed as being neoplastic, an Sos1 inhibitor selected from group
15 consisting of an antisense oligonucleotide, a ribozyme, a protein, a polypeptide, an antibody, and a small molecule, such that the neoplastic disease is reduced in severity.

17. An antisense compound of 8 to 35 nucleotides in length targeted to a nucleic acid molecule encoding human Sos1, wherein the antisense compound inhibits the expression of human Sos1.

20 18. An isolated polynucleotide having a sequence comprising a transcriptional initiation region and a sequence encoding an antisense oligonucleotide at least 10 nucleotides or nucleotide analogues and not longer than 35 nucleotides in length, comprising a sequence selected from the group consisting of SEQ ID NOs:2 and 3.

19. A recombinant vector comprising a polynucleotide having a
25 sequence comprising a transcriptional initiation region and a sequence encoding an antisense oligonucleotide at least 10 nucleotides or nucleotide analogues and not longer than 35 nucleotides in length comprising a sequence selected from the group consisting of SEQ ID NOs:2 and 3.

20. A method to inhibit expression of a *Sos1* target gene in a cell in vitro comprising introduction of a ribonucleic acid (RNA) into the cell in an amount sufficient to inhibit expression of the *Sos1* target gene, wherein the RNA is a double-stranded molecule with a first strand consisting essentially of a ribonucleotide sequence which corresponds to
5 a nucleotide sequence of the *Sos1* target gene and a second strand consisting essentially of a ribonucleotide sequence which is complementary to the nucleotide sequence of the *Sos1* target gene, wherein the first and the second ribonucleotide strands are separate complementary strands that hybridize to each other to form said double-stranded molecule, and the double-stranded molecule inhibits expression of the target gene.
- 10 21. The method of claim 20 in which the first ribonucleotide sequence comprises at least 20 bases which correspond to the *Sos1* target gene and the second ribonucleotide sequence comprises at least 20 bases which are complementary to the nucleotide sequence of the *Sos1* target gene.
- 15 22. The method of claim 20 in which the target gene expression is inhibited by at least 10%.
23. The method of claim 22 in which said double-stranded ribonucleic acid structure is at least 20 bases in length and each of the ribonucleic acid strands is able to specifically hybridize to a deoxyribonucleic acid strand of the *Sos1* target gene over the at least 20 bases.